

## CLAIMS

1. A method of assessing the pH of a substrate or environment, the method comprising contacting the  
5 substrate with a test material or introducing the test material into an environment, wherein said test material is arranged to change colour according to pH.
2. A method according to claim 1, wherein said  
10 substrate or environment is a tissue of a human or animal body, and said test material is at least a part of a dressing having a main surface arranged to contact a said tissue wherein the test material is arranged to contact a first area of a said tissue and the test material is such  
15 that it is arranged to change colour over at least 50% of the area of said first area so that the pH of individual elements of at least 50% of said first area can be monitored.
- 20 3. A method according to claim 1 or claim 2, wherein said test material is a hydrogel.
4. A method according to any preceding claim, wherein said material comprises a carrier means and an indicator  
25 means arranged to change colour according to pH.
5. A method according to claim 4, wherein said carrier means and said indicator means are covalently bonded to one another.
- 30 6. A method according to claim 4, wherein said indicator means is impregnated in said carrier means and trapped therein in a matrix defined by said carrier means.

7. A method according to any of claims 4 to 6, wherein said test material includes at least 0.01 wt% and less than 3 wt% of said indicator means:

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8. A method according to any of claims 4 to 7 wherein said carrier means comprises a natural or synthetic polymer or a residue thereof in the event that said indicator means is covalently bonded to the carrier means;  
10 and said indicator means comprises a natural or synthetic material or a residue thereof in the event said indicator means is covalently bonded to said carrier means.

9. A method according to any preceding claim, wherein  
15 said test material is in sheet form and is arranged to change colour according to pH at first, second, third and fourth positions thereon, wherein the ratio of the area defined between said four positions to the area of the main surface of the sheet is at least 0.5.

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10. A method according to any preceding claim, wherein said test material includes a second polymeric material comprising a third polymeric material which is cross-linked by a cross-linking means.

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11. A method according to claim 10, wherein said third polymeric material is a polyvinyl polymer or a copolymer comprising a polyvinyl repeat unit.

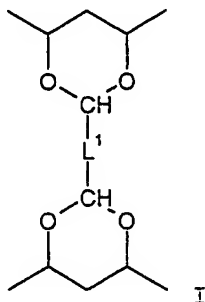
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12. A method according to claim 10 or claim 11, wherein said the third polymeric material is selected from optionally substituted polyvinyl alcohol, polyvinyl acetate, polyalkylene glycols and collagen.

13. A method according to any of claims 10 to 12, wherein said second polymeric material includes cross-linked polyvinyl alcohol or a copolymer thereof.

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14. A method according to any of claims 10 to 13, wherein said second polymeric material includes a moiety of formula I:



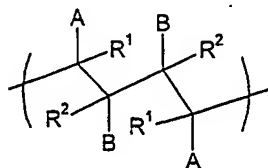
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wherein L<sup>1</sup> is a residue of said cross-linking means.

15. A method according to any of claims 10 to 14, wherein said cross-linking means comprises:

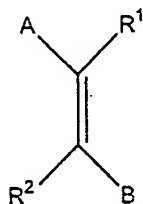
(a) a first polymeric material having a repeat unit of formula

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wherein A and B are the same or different, are selected from optionally-substituted aromatic and heteroaromatic groups and at least one comprises a relatively polar atom or group and R<sup>1</sup> and R<sup>2</sup> independently comprise relatively non-polar atoms or groups; or

(b) a first polymeric material prepared or preparable by providing a compound of general formula



wherein A, B, R<sup>1</sup> and R<sup>2</sup> are as described above, in an aqueous solvent and causing the groups C=C in said compound to react with one another to form said first polymeric material.

16. A method according to any preceding claim, wherein said test material comprises a carrier means and an indicator means which is trapped within a matrix defined by the carrier means wherein said indicator means is not covalently bonded to the carrier means.

17. A method according to any preceding claim, which includes the step of comparing the visual appearance of the test material with a reference means; or the test material may be arranged to enable pH information to be obtained directly from it without recourse to any external reference means.

18. A method according to any preceding claim, wherein the method comprises assessing the pH of said substrate or environment; and, subsequently, carrying out another step in dependence upon the pH assessed.

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19. A method according to claim 18, wherein said substrate is a tissue of the human or animal body and a subsequent treatment of said body is selected in dependence upon the pH assessed.

10 20. A method according to any preceding claim, wherein said test material is part of a dressing for the human or animal body.

21. A method according to any preceding claim, wherein  
15 said test material is arranged to provide a pH map of a substrate which it contacts.

22. A method according to any preceding claim, wherein said test material is arranged, by virtue of it being  
20 transparent, to allow colour changes to be observed with the test material in situ.

23. A method according to any preceding claim, wherein said test material includes securement means for securing  
25 it relative to a said substrate wherein said test material is used to assess the pH of part of a human or animal body.

24. A method of making a test material for assessing the pH of a substrate or environment, the method  
30 comprising associating an indicator means with a carrier means.

25. A method according to claim 24, comprising selecting a said carrier means and causing said precursor to be transformed in the presence of said indicator means so that said indicator means becomes associated with said carrier means.

26. A method according to claim 24 or claim 25, wherein said carrier means is transformed by being cross-linked with a cross-linker means which optionally also acts as said indicator means.

27. A method according to any of claims 24 to 26, wherein said carrier means is transformed by being cross-linked by a cross-linking means in the presence of an indicator means additional to said cross-linking means.

28. A method according to any of claims 24 to 27, wherein the method comprises causing said carrier means to be transformed in the presence of a further active ingredient in order to incorporate said active ingredient into said test material.

29. A method of assessing pH of a substrate or environment, the method comprising contacting the substrate with a test material or introducing the test material into an environment, wherein said test material includes a third polymeric material, cross-linked by a cross-linking means, wherein said cross-linking means incorporates aromatic or hetero-aromatic groups.

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30. A test material as described herein per se.

31. A test material according to claim 30, wherein said test material comprises a carrier means in a form of a hydrogel and an indicator means arranged to change colour according to pH.

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32. A package containing a test according to claim 30 or claim 31.

33. A package according to claim 32, which contains  
10 said test material in a sterile environment.

34. The use of a test material according to claim 30 or claim 31 in assessing the pH of a substrate or environment.

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35. The use according to claim 34, for the manufacture of an article for assessing the pH of a substrate comprising a part of a human or animal body.

20 36. The use of a said first polymeric material as described in claim 15 or a residue thereof for assessing the pH of a substrate or environment.